

**UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
MARSHALL DIVISION**

U.S. SILICA COMPANY

v.

AMBERGER KAOLINWERKE EDUARD
KICK GmbH & Co. KG

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CIVIL ACTION NO. _____

**U.S. SILICA COMPANY’S ORIGINAL COMPLAINT
FOR PATENT INFRINGEMENT**

Plaintiff U.S. Silica Company (“U.S. Silica”) brings this suit against Defendant Amberger Kaolinwerke Eduard Kick GmbH & Co. KG (“AKW”) and alleges as follows:

NATURE OF THE ACTION

1. This is a civil action for damages and injunctive relief under the Patent Laws of the United States, 35 U.S.C. § 1, *et seq.*, for the infringement of four patents that are each entitled “Highly Reflective Roofing System.” These patents are United States Patent Nos. 8,865,303 (“the ’303 Patent”); 9,303,407 (“the ’407 Patent”); 9,714,512 (“the ’512 Patent”); and 10,145,115 (“the ’115 Patent”). True and correct copies of these patents are attached as Exhibits A-D.

INTRODUCTION

2. When their roofs are able to reflect thermal energy from the sun, buildings become substantially more energy efficient. Many states and municipalities therefore require that certain kinds of buildings use roofing surfaces with a high level of reflectivity. These regulations, along with the overall trend toward more energy efficient construction practices, has spurred the development of a “cool roof” industry.

3. National Coatings Corporation was an early pioneer in this field. Starting in 2010, it applied for (and ultimately received) multiple patents for cool roofing systems.

4. National Coatings contracted with the German company AKW to manufacture calcined kaolin-based granules for use in these cool roofing systems. National Coatings provided AKW with proprietary specifications for both coated and uncoated calcined kaolin-based granules, which AKW followed. National Coatings then marketed and sold its granules to roofing manufacturers under the product name “White Armor.”

5. U.S. Silica, which has been in business for over 100 years, is a global leader in the production of specialty granules. In 2017, U.S. Silica acquired National Coatings’ cool roofing business. At first, U.S. Silica relied on AKW to produce the White Armor granules, just as National Coatings had done. But there were frequent issues with the quality of AKW’s production, which prompted U.S. Silica to look for ways to produce White Armor granules domestically.

6. Such an opportunity arose in late 2018, when U.S. Silica acquired a new plant in Millen, Georgia. The Millen plant was located near large kaolin and silica deposits, which allowed U.S. Silica to produce White Armor granules in the United States instead of outsourcing to Germany. This offered numerous benefits, including better quality control, a reduction in transportation costs, and new jobs for American workers.

7. U.S. Silica was open with AKW about its plan to shift production of White Armor granules sometime in 2020 to the Millen plant, thereby giving AKW almost one year’s notice of its plans despite being under no contractual obligations to do so. AKW did not take the news well. Nevertheless, in an effort to preserve the companies’ relationship, U.S. Silica offered to give AKW an exclusive license to sell White Armor to the European market (and possibly the rest of the world as well) and an exclusive license to sell White Armor to the after-market repair and maintenance

market in the United States. AKW rejected the offer, and it threatened that “AKW is going to work on a different business strategy to come back on track in this business area.”

8. It is now clear what AKW’s “business strategy” for coming “back on track in this business area” entails: copying White Armor granules and trying to poach U.S. Silica’s customers. AKW is currently marketing a cool roofing granule called “AKCool,” which is expressly intended to be applied to asphalt/bitumen sheets:



9. According to AKW’s own marketing materials, AKCool particles are designed to practice the claimed limitations of U.S. Silica’s patented inventions, including particle size, reflectivity, and coating. Since the beginning of 2020, AKW has exported from Germany to the United States over forty metric tons of AKCool to roofing manufacturers. Furthermore, AKW has actively encouraged infringement of U.S. Silica’s patents by explicitly marketing AKCool granules to roofing manufacturers for use in asphalt/bitumen roofing products. At least one roofing manufacturer who received AKCool particles, U.S. Ply, has applied it to an asphalt/bitumen layer, resulting in direct infringement of U.S. Silica’s patents.

10. AKW knew that the use of AKCool by roofing manufacturers would infringe U.S. Silica’s patents. Indeed, AKW was well aware of U.S. Silica’s patents as a result of its role as the White Armor granule supplier for both National Coatings and U.S. Silica prior to 2020. AKW

clearly intended to induce infringement of the patents-in-suit. Moreover, AKW has contributorily infringed these patents because the AKCool granules have no substantial non-infringing uses, are not staple articles of commerce, and are a material part of U.S. Silica's patented cool roofing invention.

11. U.S. Silica seeks damages for AKW's induced and contributory infringement, including trebled damages for willful infringement.

PARTIES

12. U.S. Silica Company is a Delaware corporation with its principal place of business at 24275 Katy Freeway, Suite 600, Katy, Texas 77494.

13. U.S. Silica is the owner, by assignment, of the four patents-in-suit. All four patents were duly and lawfully issued by the United States Patent and Trademark Office. The '303 Patent was duly and lawfully issued on October 21, 2014. The '407 Patent was duly and lawfully issued on April 5, 2016. The '512 Patent was duly and lawfully issued on July 25, 2017. The '115 Patent was duly and lawfully issued on December 4, 2018.

14. Upon information and belief, AKW is a German company having its principal place of business at Georg-Schiffer-Strasse 70, D-92242 Hirschau, Germany. AKW may be served through the Hague Convention on the Service Abroad of Judicial and Extrajudicial Documents in Civil or Commercial Matters (the Hague Service Convention).

JURISDICTION AND VENUE

15. This Court has subject matter jurisdiction under 28 U.S.C. §§ 1331 and 1338(a).

16. Venue is proper in this District under 28 U.S.C. § 1391(c)(3). Defendant AKW is a foreign entity that can be sued in any judicial district in the United States.

17. This Court has personal jurisdiction over AKW under FED. R. CIV. P. 4(k)(1) based on at least the following conduct within or directed to the State of Texas:

- a. AKW entered into an agreement with U.S. Ply Inc., a corporation with its principle place of business in Bridgeport, Texas, to sell at least 38 metric tons of AKCool granules to U.S. Ply. On or around April 2, 2020, 38 metric tons of AKCool were shipped and consigned over to U.S. Ply, with a final destination of Bridgeport, Texas. On information and belief, AKW engaged in electronic and telephonic communications directed at U.S. Ply in Texas relating to the sale and use of AKCool granules.
- b. AKW entered into a contract with the International Roofing Expo, located in Irving, Texas, for booth space and associated services in connection with the International Roofing Expo in Dallas, Texas. During this February 2020 trade show, AKW marketed the AKCool product for use in cool roofing systems through advertising, brochures, and in-person sales efforts targeted at attending customers. AKW also brought samples of AKCool to the trade show in Texas to display them to potential customers. Through these activities, AKW actively encouraged customers in Texas to purchase and import AKCool granules to the United States for the purpose of applying them to asphalt/bitumen sheets.

18. In the alternative, this Court has jurisdiction over AKW under FED. R. CIV. P. 4(k)(2) based on (i) AKW's contacts with Texas outlined above; (ii) AKW's importation of AKCool product (whether in commercial quantities or smaller samples) to other locations in the United States, *see infra* ¶¶ 51-52; and (iii) on information and belief, other marketing activities and communications directed towards roofing manufacturers in the United States.

THE PATENTS-IN-SUIT

19. U.S. Silica realleges and incorporates all preceding allegations.
20. Each of the patents-in-suit is valid and enforceable.
21. U.S. Silica is the owner of the entire right, title, and interest in and to the patents-in-suit.
22. The patents-in-suit and their respective claims relate to cool roofing systems. The patents-in-suit generally describe a roof system having either an asphalt layer, such as bitumen or modified bitumen, and/or a spray polyurethane foam layer with an elastomeric coating, a granular layer that includes calcined kaolin particles, a coating applied to the particles, and reflectance values within recited bounds.

FACTUAL BACKGROUND

23. U.S. Silica realleges and incorporates all preceding allegations.

Demand for cool roofing systems grows

24. When solar radiation strikes a roof, some of the energy is reflected, some is emitted back into the air, and some is absorbed. The more solar energy that is reflected or emitted by the roofing material, the less heat is transferred to the building (and the less energy is needed to cool the building). The choice of roofing material can therefore have an enormous impact on a building's energy efficiency.

25. The first cool roofing standards were promulgated by the American Society for Heating, Refrigeration, and Air-conditioning Engineers ("ASHRAE") in 1990. California made headlines in 2001 when it adopted the ASHRAE standards for certain nonresidential buildings and offered tax credits for the use of cool roofing systems. California's regulations have become more expansive and rigorous over time, which led to the development of new cool roofing technologies.

Other states and municipalities followed California's lead by adopting their own cool roofing requirements, further spurring growth of the cool roofing industry.

National Coatings develops the innovative White Armor granules

26. National Coatings was founded in California by Rick Sexauer in 1981. While it originally manufactured acrylic coatings, over time it developed a calcined kaolin-based roofing granule that was added to a layer of either asphalt/bitumen or spray polyurethane foam with an elastomeric coating. In 2010, National Coatings filed the first of four patent applications for its innovative cool roofing systems, which would eventually issue in October 2014 as the '303 Patent. Sexauer and Matthew Kolb, an executive at National Coatings, were the named inventors.

27. Sold under the trade name "White Armor," National Coatings' product was the first commercially available cool roofing granule capable of reaching the levels of reflectivity required by California's exacting regulations. White Armor met California's requirement, despite a drop in reflectance of several percentage points between pure roofing granules and granules as applied to a roofing system. In addition to reaching the desired levels of solar reflectivity, the White Armor granule helped prevent thaw/freeze cycles that would damage the roofing system, was stain resistant, and helped to block harmful ultraviolet radiation.

28. AKW manufactured White Armor for National Coatings. At the time U.S. Silica purchased National Coatings' cool roofing division (as explained below), National Coatings was actively looking for alternative suppliers based on quality issues with AKW's product.

***U.S. Silica acquires National Coatings
and decides to produce White Armor domestically***

29. Over more than a century of operations, U.S. Silica built a global business focused on products derived from silica and other minerals. U.S. Silica's business was a natural fit for cool roofing granules and related technologies, which led U.S. Silica to become interested in acquiring

the White Armor product line. Following negotiations between the companies, U.S. Silica purchased National Coatings' cool roofing division—including its customer contracts and the patents-in-suit—in April 2017.

30. For the first three years after the acquisition, U.S. Silica continued to rely solely on AKW to produce White Armor granules. As with National Coatings, AKW manufactured (or retained an approved subcontractor to manufacture) White Armor to U.S. Silica's specifications and quality requirements. AKW then shipped White Armor directly to customers at U.S. Silica's direction.

31. While U.S. Silica was content to rely on AKW at first, quality control issues with the White Armor granules became a recurring problem. For example, U.S. Silica had to provide AKW with technical assistance due to issues with inadequate stain resistance and excess dust on the White Armor granules. But even with U.S. Silica's help, quality control issues persisted and AKW refused to make the capital improvements necessary to address them.

32. In December 2018, U.S. Silica purchased an idled ceramic proppant plant in Millen, Georgia. The plant was located near large deposits of kaolin, which is used in the manufacture of the White Armor granules. U.S. Silica decided to re-engineer the Millen plant to produce White Armor. By manufacturing White Armor domestically, U.S. Silica would be able to cut costs, retake control of quality assurance, and employ U.S. workers rather than outsource its manufacturing work to Germany.

33. U.S. Silica promptly notified AKW of its plans to transition new production of White Armor to the plant in Georgia, giving AKW almost a full year's notice, though U.S. Silica was under no obligation to do so. To soften the blow, U.S. Silica offered to give AKW an exclusive license to sell White Armor to the European market (and possibly the rest of the world as well)

and an exclusive license to sell White Armor to the after-market repair and maintenance market in the United States.

34. AKW did not take the news well. By June 2019, AKW had rejected U.S. Silica's proposal and AKW threatened to "work on a different business strategy to come back on track in this business area." As illustrated by AKW's subsequent conduct, that "different" strategy involved willful infringement of U.S. Silica's patents and efforts to poach U.S. Silica's customers.

***AKW tries to obtain intellectual property
derived from its work with White Armor***

35. Despite having knowledge of the National Coatings / U.S. Silica family of patents for cool roofing systems, AKW launched a campaign to offer a competing cool roof granule in the United States. This "new" product, which AKW markets under the trade name "AKCool" is derived from the patents-in-suit.

36. AKW asserts in its marketing literature that the AKCool granules are "patented." Ex. E at 2. Yet the only active patent or patent application owned by AKW in the U.S. Patent and Trademark Assignment Database is United States Patent No. 10,259,974 (the "'974 Patent"), which issued in April 2019 and is directed to a reflective particle. Ex. F. The '974 Patent is later in time than U.S. Silica's initial patents, and it recites properties and features that would infringe U.S. Silica's patents when practiced together.

37. Claim 1 of the '974 Patent recites, for example, "A roof coating comprising a bitumen layer with embedded particles, wherein said embedded particles comprise particles that are fired mixtures of from 40 to 70% by weight clay minerals; from 0 to 32% by weight crystalline silicas; from 28 to 45% by weight feldspar; from 0 to 15% by weight other aggregates, wherein said fired mixtures have an open porosity of 0 to 14% by volume as measured according to DIN EN 993-1:1995." *Id.* at 6:38-47 (Claim 1). As noted in the '974 Patent's specification, the clay

mineral material used is China clay—also known as kaolin—which is fired at temperatures between 1150°C or 1380°C. *Id.* at 2:57-60; 5:17-25. The example particles are coated with Unidyne TG-8111 from Daikin Chemical Ltd, a fluoroalkyl acrylate. *Id.* at 4:60-67. The Unidyne TG-8111 coating is diluted with water in a 5:1 ratio and applied at a maximum of 0.6% by weight of the particles, so that reflectivity is not significantly deteriorated. *Id.* Further, “adherence to the bitumen is not disturbed to the extent where the particles could become detached from the roof coating” and “the particles are embedded in the bitumen matrix relatively firmly.” *Id.* at 3:64-67, 6:14-18.

38. The claims and disclosure of the ’974 Patent mimic U.S. Silica’s patented inventions. In fact, during prosecution of the ’974 Patent, AKW cited U.S. Patent Application Publication No. 2011/0081537 and International Patent Application Publication No. WO 2011/041033. Those United States and WIPO publications correspond to U.S. Silica’s ’303 Patent.

39. AKW also filed an application under the Madrid Protocol for protection of the trademark “AKCool” in several jurisdictions, including the United States, for “Chemical preparations; **kaolin**; chemical products in the form of **reflective granules of calcined kaolin or calcined kaolin-feldspar-quartz mixtures**” and “Building materials (non-metallic); bitumen; bituminous coating compounds for roofs; **bituminous membranes and preservatives of calcined kaolin or calcined kaolin-feldspar-quartz mixtures for roofs**; silica [quartz]; quartz sand, quartz powder, **in particular for use as reflective granules for roof coverings and roof tiles** [not made of metal].” (emphasis added). AKW filed for trademark protection on September 16, 2019, just three months after rejecting U.S. Silica’s business proposal.

40. When AKCool granules are applied to a layer of asphalt/bitumen (as AKW directs customers to do), the result is:

- A cool roofing system with an asphalt layer, such as bitumen or modified bitumen;
- a granular layer of crushed kaolin particles comprising crushed kaolin chamotte, such as aluminum silicate, calcined china clay, mullite, and calcined flint clay;
- particles with solar reflectance between 80% and 90% prior to any surface treatment;
- a particle size of 0.3-2.4 mm;
- a clear coating selected from the group consisting of silanes, siloxanes, polysiloxanes, organo-siloxanes, silicates, organic silicates, silicone resins, acrylics, urethanes, polyurethanes, glycol ethers and mixtures thereof;
- a solar reflectance after coating and application to asphalt/bitumen between about 70% and about 82%, and/or a minimum solar reflectance of 70%.

41. It is apparent that AKCool granules applied to an asphalt or bitumen layer would infringe (at a minimum) claims 1, 9, and 10 of the '303 Patent (the "Asserted '303 Claims"), claims 1, 3, 9, and 10 of the '407 Patent (the "Asserted '407 Claims"), claims 1 and 3 of the '512 Patent (the "Asserted '512 Claims"), and claims 1-3 and 5 of the '115 Patent (the "Asserted '115 Claims") (collectively, the "Asserted Claims").

AKW markets AKCool to roofing companies in the U.S.

42. In February 2020, AKW attended the International Roofing Expo (the "IRE") in Dallas, Texas. The IRE proclaims itself to be the "#1 event for exhibitions and education for the roofing industry." In fact, the IRE website notes that it brings together thousands of roofing professionals:

The International Roofing Expo brings together over 17,000 professionals to help them stay current on industry knowledge and to see the largest selection of products and services. Our goal is to help roofing professionals improve their business through education exhibitions, and networking.

Everyone who has a role in the industry comes together at this powerful event to conduct face-to-face meetings, experience the newest innovations,

participate in cutting-edge educational sessions, and build strong relationships.¹

The 2020 IRE had 17,060 roofing professionals in attendance.²

43. At the IRE, AKW displayed AKCool granules and marketing materials, such as the attached brochure. Exhibit E (the “AKCool Brochure”). *See also supra* p. 3 (a photograph of AKW’s booth at the Expo).

44. AKW’s marketing materials (among other things) confirm that the application of AKCool granules to an asphalt/bitumen layer would infringe the patents-in-suit. For example, AKW admits that AKCool granules are “specially developed for bitumen mineral cap sheets used on roofs.” Ex. E at 2. They are “coated to repel water and oil” and are “completely reflective (due to reflective core material),” which implies a clear coating. *Id.* The AKCool granules have a “permanently high reflectance value and especially long durability.” *Id.* “As a result, according to AKW, AKCool helps lower building temperatures, minimize energy and operating costs, and meet building environmental standards.” *Id.*

45. AKW also represents that “pure” AKCool granules have a solar reflectance value of ~84% as measured by ASTM C1549. *Id.* at 3. On a bitumen sheet with “[c]omplete coverage with solar reflective granules,” AKCool provides reflectance values greater than 70%. *Id.* AKW’s granules also have “[p]erfect adhesion to bitumen surface” and a particle size of 0.5-2.4 mm. *Id.* at 2. AKW further acknowledges that it manufactures AKCool and/or hires subcontractors to manufacture AKCool to its specifications. *Id.* at 4.

¹ *Who Attends the International Roofing Expo?*, INTERNATIONAL ROOFING EXPO, <https://www.theroofingexpo.com/en/attend.html> (last accessed Sept. 6, 2020).

² *IRE 2020 Recap*, INT’L ROOFING EXPO, <https://www.theroofingexpo.com/en/attend/ire-2020-recap.html> (last accessed Sept. 6, 2020)

46. The composition of AKCool is, substantively, virtually identical to U.S. Silica's patented White Armor Product. AKCool is manufactured with a substantially similar starting composition as the White Armor Product. AKCool includes, upon information and belief, a majority of kaolin clay. AKCool includes a high content of silicon oxide and aluminum oxide, combined, and it is prepared by calcining at a high temperature.

47. Through the AKCool Brochure, in-person sales efforts at the IRE in Texas, supply contracts and/or other arrangements with its customers, and other marketing communications, AKW has encouraged and instructed roofing system manufacturers to apply AKCool to a layer of asphalt/bitumen to create infringing cool roofing systems. *See, e.g.*, Ex. E at 1-3; Ex. F at 1:3-60 ('974 Patent).

48. AKCool granules are not staple articles of commerce. The only viable commercial uses of the AKCool granules are infringing cool roofing systems, where granules are applied on top of an asphalt/bitumen layer.³ *See, e.g.*, Ex. E at 1-3 (brochure); Ex. F at 6:38-47, 8:5-17 ('974 Patent). AKW itself proclaims AKCool granules to be "specially developed for bitumen mineral cap sheets used on roofs" and to have "[p]erfect adhesion to bitumen surface due to microporous flake surface" to achieve "perfect coverage and fixation" to asphalt/bitumen:

³ There is an alternative commercial use, also infringing, of applying the granules to a spray polyurethane base that is topped with an elastomeric coating. That use is not currently at issue in this case, but U.S. Silica reserves the right to assert infringement by such systems should discovery show AKCool or other accused products of AKW are used in such a manner.

AKCool® – PATENTED TECHNOLOGY

The new, patented AKCool® granules are specially developed for bitumen mineral cap sheets used on roofs. The product is characterized by **permanently high reflectance values and especially long durability**. As a result, AKCool® helps lower building temperatures, minimize energy and operating costs, and meet building environmental standards.

Optimized granules:

- Completely reflective (due to reflective core material)
- Optimized flaked granule shape and ideal particle size distribution for perfect coverage and fixation
- High hardness
- Minimal fines, low dusting
- Absolutely UV-resistant

Optimized surface:

- Minimum staining thanks to highly hydrophobic and oleophobic surface
- Long-term durability of granules brings long-term reflectance to the roof system
- Perfect adhesion to bitumen surface due to microporous flake surface

Ex. E at 2.

49. AKW further depicts AKCool as being used in asphalt/bitumen rolled roofing products:





Id. at 1, 3 (depicting, respectively, roofers with rolls of AKCool covered asphalt/bitumen roofing product and a close-up photograph of a roll of asphalt/bitumen roofing with AKCool); *see also supra* p. 3 (another close-up photograph of rolled, AKCool covered asphalt/bitumen roofing, prominently displayed at the International Roofing Expo).

50. AKW imports AKCool granules under Harmonized Tariff Schedule No. 25070020 for “Kaolin and other kaolinic clays, whether or not calcined.”

51. AKW has sold and imported AKCool into the United States in commercial quantities on at least three occasions, in each case to a manufacturer of roofing systems, totaling over 50 metric tons (110,000 lbs.):

- On or around January 28 and February 12, 2020, the Garland Company, Inc. of Cleveland, Ohio, received 12 metric tons of AKCool in two shipments.
- On or around February 29, 2020, MBTechnology of Fresno, California, received 4 metric tons of AKCool.
- On or around April 2, 2020, U.S. Ply of Bridgeport, Texas received 38 metric tons of AKCool.

- On information and belief, AKW has made additional shipments into the United States, including to Texas, to one or more customers.

52. AKW's roofing manufacturer customers, including at least U.S. Ply, have applied AKCool granules to layers of asphalt/bitumen to create cool roofing systems. Thus, AKW's customers have directly infringed and continue to directly infringe the Asserted Claims.

53. AKW instructed and encouraged its customers to apply AKCool granules to a layer of asphalt to manufacture a cool roofing system with knowledge of or willful blindness to the patents-in-suit. AKW also knew and intended that the AKCool granules be especially adapted and manufactured to infringe the U.S. Silica patents, thereby illustrating its intent that its customers infringe the Asserted Claims.

54. AKW's actions are deliberate, knowing, and willful. AKW has been on notice or was willfully blind to the existence of the patents-in-suit long before its infringing activities, given its role as the supplier of White Armor first to National Coatings and later to U.S. Silica. Moreover, AKW admitted in its own patent filings that it had knowledge of both the published '303 patent application and the corresponding WIPO publication. In addition, in a draft supply agreement, the parties expressly stated that "[U.S. Silica] owns certain patents, copyrights, trademarks, know-how, trade secrets and other confidential information (collectively, 'Intellectual Property') associated with the White Armor line of cool roof granules."

55. In sum, AKW knew of U.S. Silica's patents, copied the patented White Armor product, and now markets and sells its infringing product in the United States. In doing so, AKW actively encourages and causes direct infringement of U.S. Silica's patents, and it is also committing contributory infringement by manufacturing a copycat of the granule at the heart of U.S. Silica's patents.

CAUSES OF ACTION

COUNT I

(Induced Infringement of United States Patent No. 8,865,303)

56. U.S. Silica realleges and incorporates all preceding allegations.

57. AKW indirectly infringes at least the Asserted '303 Claims by knowingly and actively inducing its customers to infringe, and by intentionally aiding, assisting, instructing and encouraging its customers to directly infringe the '303 Patent through its importation, sale and/or offer to sell the AKCool granules in the United States to its customers who manufacture, offer for sale and/or sell cool roofing systems including a layer of asphalt or bitumen and a layer of AKCool granules on top of the asphalt/bitumen (the "Accused Products") in the United States. An exemplary claim chart is attached hereto as Exhibit G.

58. AKW intended to induce infringement of the '303 Patent by its customers because it knew, should have known, or was willfully blind to the existence of the '303 Patent. AKW knew, should have known, or was willfully blind to the fact that its actions and the actions of its customers would result in infringement of the '303 Patent, and AKW intended that its customers perform the acts necessary to cause direct infringement. As a result, U.S. Silica has been and continues to be irreparably damaged.

59. AKW's conduct constitutes induced infringement pursuant to 35 U.S.C. § 271(b).

60. To the extent AKW does not induce its customers to literally infringe the '303 Patent, AKW has induced its customers to infringe by way of the doctrine of equivalents because AKCool, as applied to the Accused Products, performs the same function, in the same way, to obtain the same result as the Asserted '303 Claims. AKCool is a reflective granule applied to an asphalt layer, AKCool has substantially the same composition as claimed and described in the '303 Asserted Claims and as used by U.S. Silica in the White Armor Product, and the result is the same,

namely producing a highly reflective, cool roofing system. Any difference between the Accused Products and the Asserted '303 Claims are minor and insubstantial.

61. AKW committed these acts of infringement without license or authorization, and it has done so with knowledge of the '303 Patent and egregious disregard for U.S. Silica's rights in the '303 Patent.

62. AKW has willfully infringed the '303 Patent by inducement, entitling U.S. Silica to treble damages and attorneys' fees incurred in prosecuting this action under 35 U.S.C. §§ 284 and 285.

COUNT II
(Contributory Infringement of United States Patent No. 8,865,303)

63. U.S. Silica realleges and incorporates all preceding allegations.

64. AKW contributorily infringes the Asserted '303 Claims through its importation, sale and/or offer to sell the AKCool granules in the United States to customers who manufacture, sell and/or offer to sell the Accused Products in the United States, thereby directly infringing the Asserted '303 Claims. AKCool granules constitute a material part of the Asserted '303 Claims and the Accused Products. AKCool granules are not staple articles or commodities of commerce suitable for substantial non-infringing uses, due to their special adaptation for use as cool roofing system granules on asphalt or bitumen layers. AKW knows the AKCool granules are especially made or adapted for use in infringing the Asserted '303 Claims and are not staple articles or commodities of commerce without substantial non-infringing uses. See Ex. G ('303 Claim chart)

65. AKW's conduct constitutes contributory infringement pursuant to 35 U.S.C. § 271(c).

66. To the extent AKW does not contributorily infringe the '303 Patent literally, AKW contributorily infringes under the doctrine of equivalents because AKCool, as applied to the

Accused Products, performs the same function, in the same way, to obtain the same result as the Asserted '303 Claims. AKCool is a reflective granule applied to an asphalt layer, AKCool has substantially the same composition as claimed and described in the '303 Asserted Claims and as used by U.S. Silica in the White Armor Product, and the result is the same, namely producing a highly reflective, cool roofing system. Any difference between the Accused Products and the Asserted '303 Claims are minor and insubstantial.

67. AKW committed these acts of infringement without license or authorization, and it has done so with knowledge of the '303 Patent and egregious disregard for U.S. Silica's rights in the '303 Patent.

68. AKW has willfully infringed the '303 Patent by contributory infringement, entitling U.S. Silica to treble damages and attorneys' fees incurred in prosecuting this action under 35 U.S.C. §§ 284 and 285.

COUNT III
(Induced Infringement of United States Patent No. 9,303,407)

69. U.S. Silica realleges and incorporates all preceding allegations.

70. AKW indirectly infringes at least the Asserted '407 Claims by knowingly and actively inducing its customers to infringe, and by intentionally aiding, assisting, instructing and encouraging its customers to directly infringe the '407 Patent through its importation, sale and/or offer to sell the AKCool granules in the United States to its customers who manufacture, offer for sale and/or sell cool roofing systems including a layer of asphalt or bitumen and a layer of AKCool granules on top of the asphalt/bitumen in the United States. An exemplary claim chart is attached hereto as Exhibit H.

71. AKW intended to induce infringement of the '407 Patent by its customers because it knew, should have known, or was willfully blind to the existence of the '407 Patent. AKW

knew, should have known, or was willfully blind to the fact that its actions and the actions of its customers would result in infringement of the '407 Patent, and AKW intended that its customers perform the acts necessary to cause direct infringement. As a result, U.S. Silica has been and continues to be irreparably damaged.

72. AKW's conduct constitutes induced infringement pursuant to 35 U.S.C. § 271(b).

73. To the extent AKW does not induce its customers to literally infringe the '407 Patent, AKW has induced its customers to infringe by way of the doctrine of equivalents because AKCool, as applied to the Accused Products, performs the same function, in the same way, to obtain the same result as the Asserted '407 Claims. AKCool is a reflective granule applied to an asphalt layer, AKCool has substantially the same composition as claimed and described in the '407 Asserted Claims and as used by U.S. Silica in the White Armor Product, and the result is the same, namely producing a highly reflective, cool roofing system. Any difference between the Accused Products and the Asserted '407 Claims are minor and insubstantial.

74. AKW committed these acts of infringement without license or authorization, and it has done so with knowledge of the '407 Patent and egregious disregard for U.S. Silica's rights in the '407 Patent.

75. AKW has willfully infringed the '407 Patent by inducement, entitling U.S. Silica to treble damages and attorneys' fees incurred in prosecuting this action under 35 U.S.C. §§ 284 and 285.

COUNT IV
(Contributory Infringement of United States Patent No. 9,303,407)

76. U.S. Silica realleges and incorporates all preceding allegations.

77. AKW contributorily infringes the Asserted '407 Claims through its importation, sale and/or offer to sell the AKCool granules in the United States to customers who manufacture,

sell and/or offer to sell the Accused Products in the United States, thereby directly infringing the Asserted '407 Claims. AKCool granules constitute a material part of the Asserted '407 Claims and the Accused Products. AKCool granules are not staple articles or commodities of commerce suitable for substantial non-infringing uses, due to their special adaptation for use as cool roofing system granules on asphalt or bitumen layers. AKW knows the AKCool granules are especially made or adapted for use in infringing the Asserted '407 Claims and are not staple articles or commodities of commerce without substantial non-infringing uses. See Ex. H ('407 Claim chart).

78. AKW's conduct constitutes contributory infringement pursuant to 35 U.S.C. § 271(c).

79. To the extent AKW does not contributorily infringe the '407 Patent literally, AKW contributorily infringes under the doctrine of equivalents because AKCool, as applied to the Accused Products, performs the same function, in the same way, to obtain the same result as the Asserted '407 Claims. AKCool is a reflective granule applied to an asphalt layer, AKCool has substantially the same composition as claimed and described in the '407 Asserted Claims and as used by U.S. Silica in the White Armor Product, and the result is the same, namely producing a highly reflective, cool roofing system. Any difference between the Accused Products and the Asserted '407 Claims are minor and insubstantial.

80. AKW committed these acts of infringement without license or authorization, and it has done so with knowledge of the '407 Patent and egregious disregard for U.S. Silica's rights in the '407 Patent.

81. AKW has willfully infringed the '407 Patent by contributory infringement, entitling U.S. Silica to treble damages and attorneys' fees incurred in prosecuting this action under 35 U.S.C. §§ 284 and 285.

COUNT V
(Induced Infringement of United States Patent No. 9,714,512)

82. U.S. Silica realleges and incorporates all preceding allegations.

83. AKW indirectly infringes at least the Asserted '512 Claims by knowingly and actively inducing its customers to infringe, and by intentionally aiding, assisting, instructing and encouraging its customers to directly infringe the '512 Patent through its importation, sale and/or offer to sell the AKCool granules in the United States to its customers who manufacture, offer for sale and/or sell cool roofing systems including a layer of asphalt or bitumen and a layer of AKCool granules on top of the asphalt/bitumen in the United States. An exemplary claim chart is attached hereto as Exhibit I.

84. AKW intended to induce infringement of the '512 Patent by its customers because it knew, should have known, or was willfully blind to the existence of the '512 Patent. AKW knew, should have known, or was willfully blind to the fact that its actions and the actions of its customers would result in infringement of the '512 Patent, and AKW intended that its customers perform the acts necessary to cause direct infringement. As a result, U.S. Silica has been and continues to be irreparably damaged.

85. AKW's conduct constitutes induced infringement pursuant to 35 U.S.C. § 271(b).

86. To the extent AKW does not induce its customers to literally infringe the '512 Patent, AKW has induced its customers to infringe by way of the doctrine of equivalents because AKCool, as applied to the Accused Products, performs the same function, in the same way, to obtain the same result as the Asserted '512 Claims. AKCool is a reflective granule applied to an asphalt layer, AKCool has substantially the same composition as claimed and described in the '512 Asserted Claims and as used by U.S. Silica in the White Armor Product, and the result is the same,

namely producing a highly reflective, cool roofing system. Any difference between the Accused Products and the Asserted '512 Claims are minor and insubstantial.

87. AKW committed these acts of infringement without license or authorization, and it has done so with knowledge of the '512 Patent and egregious disregard for U.S. Silica's rights in the '512 Patent.

88. AKW has willfully infringed the '512 Patent by inducement, entitling U.S. Silica to treble damages and attorneys' fees incurred in prosecuting this action under 35 U.S.C. §§ 284 and 285.

COUNT VI
(Contributory Infringement of United States Patent No. 9,714,512)

89. U.S. Silica realleges and incorporates all preceding allegations.

90. AKW contributorily infringes the Asserted '512 Claims through its importation, sale and/or offer to sell the AKCool granules in the United States to customers who manufacture, sell and/or offer to sell the Accused Products in the United States, thereby directly infringing the Asserted '512 Claims. AKCool granules constitute a material part of the Asserted '512 Claims and the Accused Products. AKCool granules are not staple articles or commodities of commerce suitable for substantial non-infringing uses, due to their special adaptation for use as cool roofing system granules on asphalt or bitumen layers. AKW knows the AKCool granules are especially made or adapted for use in infringing the Asserted '512 Claims and are not staple articles or commodities of commerce without substantial non-infringing uses. See Ex. I ('512 Claim chart).

91. AKW's conduct constitutes contributory infringement pursuant to 35 U.S.C. § 271(c).

92. To the extent AKW does not contributorily infringe the '512 Patent literally, AKW contributorily infringes under the doctrine of equivalents because AKCool, as applied to the

Accused Products, performs the same function, in the same way, to obtain the same result as the Asserted '512 Claims. AKCool is a reflective granule applied to an asphalt layer, AKCool has substantially the same composition as claimed and described in the '512 Asserted Claims and as used by U.S. Silica in the White Armor Product, and the result is the same, namely producing a highly reflective, cool roofing system. Any difference between the Accused Products and the Asserted '512 Claims are minor and insubstantial.

93. AKW committed these acts of infringement without license or authorization, and it has done so with knowledge of the '512 Patent and egregious disregard for U.S. Silica's rights in the '512 Patent.

94. AKW has willfully infringed the '512 Patent by contributory infringement, entitling U.S. Silica to treble damages and attorneys' fees incurred in prosecuting this action under 35 U.S.C. §§ 284 and 285.

COUNT VII
(Induced Infringement of United States Patent No. 10,145,115)

95. U.S. Silica realleges and incorporates all preceding allegations.

96. AKW indirectly infringes at least the Asserted '115 Claims by knowingly and actively inducing its customers to infringe, and by intentionally aiding, assisting, instructing and encouraging its customers to directly infringe the '115 Patent through its importation, sale and/or offer to sell the AKCool granules in the United States to its customers who manufacture, offer for sale and/or sell cool roofing systems including a layer of asphalt or bitumen and a layer of AKCool granules on top of the asphalt/bitumen in the United States. An exemplary claim chart is attached hereto as Exhibit J.

97. AKW intended to induce infringement of the '115 Patent by its customers because it knew, should have known, or was willfully blind to the existence of the '115 Patent. AKW

knew, should have known, or was willfully blind to the fact that its actions and the actions of its customers would result in infringement of the '115 Patent, and AKW intended that its customers perform the acts necessary to cause direct infringement. As a result, U.S. Silica has been and continues to be irreparably damaged.

98. AKW's conduct constitutes induced infringement pursuant to 35 U.S.C. § 271(b).

99. To the extent AKW does not induce its customers to literally infringe the '115 Patent, AKW has induced its customers to infringe by way of the doctrine of equivalents because AKCool, as applied to the Accused Products, performs the same function, in the same way, to obtain the same result as the Asserted '115 Claims. AKCool is a reflective granule applied to an asphalt layer, AKCool has substantially the same composition as claimed and described in the '115 Asserted Claims and as used by U.S. Silica in the White Armor Product, and the result is the same, namely producing a highly reflective, cool roofing system. Any difference between the Accused Products and the Asserted '115 Claims are minor and insubstantial.

100. AKW committed these acts of infringement without license or authorization, and it has done so with knowledge of the '115 Patent and egregious disregard for U.S. Silica's rights in the '115 Patent.

101. AKW has willfully infringed the '115 Patent by inducement, entitling U.S. Silica to treble damages and attorneys' fees incurred in prosecuting this action under 35 U.S.C. §§ 284 and 285.

COUNT VIII
(Contributory Infringement of United States Patent No. 10,145,115)

102. U.S. Silica realleges and incorporates all preceding allegations.

103. AKW contributorily infringes the Asserted '115 Claims through its importation, sale and/or offer to sell the AKCool granules in the United States to customers who manufacture,

sell and/or offer to sell the Accused Products in the United States, thereby directly infringing the Asserted '115 Claims. AKCool granules constitute a material part of the Asserted '115 Claims and the Accused Products. AKCool granules are not staple articles or commodities of commerce suitable for substantial non-infringing uses, due to their special adaptation for use as cool roofing system granules on asphalt or bitumen layers. AKW knows the AKCool granules are especially made or adapted for use in infringing the Asserted '115 Claims and are not staple articles or commodities of commerce without substantial non-infringing uses. See Ex. J ('115 Claim chart).

104. AKW's conduct constitutes contributory infringement pursuant to 35 U.S.C. § 271(c).

105. To the extent AKW does not contributorily infringe the '115 Patent literally, AKW contributorily infringes under the doctrine of equivalents because AKCool, as applied to the Accused Products, performs the same function, in the same way, to obtain the same result as the Asserted '115 Claims. AKCool is a reflective granule applied to an asphalt layer, AKCool has substantially the same composition as claimed and described in the '115 Asserted Claims and as used by U.S. Silica in the White Armor Product, and the result is the same, namely producing a highly reflective, cool roofing system. Any difference between the Accused Products and the Asserted '115 Claims are minor and insubstantial.

106. AKW committed these acts of infringement without license or authorization, and it has done so with knowledge of the '115 Patent and egregious disregard for U.S. Silica's rights in the '115 Patent.

107. AKW has willfully infringed the '115 Patent by contributory infringement, entitling U.S. Silica to treble damages and attorneys' fees incurred in prosecuting this action under 35 U.S.C. §§ 284 and 285.

PRAYER FOR RELIEF

U.S. Silica requests the following relief:

- A. Entry of judgment that AKW has induced infringement of and contributorily infringed the U.S. Silica Patents;
- B. An order permanently enjoining AKW, together with its officers, directors, agents, servants, employees, attorneys, and those persons in active concert or participation with them, from infringing the patents-in-suit;
- C. An award of compensatory damages adequate to compensate U.S. Silica for AKW's infringement of the patents-in-suit, in an amount no less than a reasonable royalty;
- D. A judgment that AKW's infringement of the patents-in-suit was and is willful;
- E. Pre- and post-judgment interest;
- F. An order finding that this is an exceptional case and awarding U.S. Silica its reasonable attorneys' fees under 35 U.S.C. § 285; and
- G. All such other and further costs and relief as the Court deems just and proper.

DEMAND FOR JURY TRIAL

Pursuant to Rule 38 of the Federal Rules of Civil Procedure, U.S. Silica hereby demands a trial by jury in this action of all claims so triable.

Dated: September 8, 2020

Respectfully submitted,

BECK REDDEN LLP

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